

WHAT IS CLAIMED IS

5

1. A developer, comprising:
a base toner containing at least a binding
resin and a coloring agent; and
inorganic fine particles;
wherein the base toner satisfies $105 \leq SF-1 \leq 130$ and $120 \leq SF-2 \leq 180$,

wherein $SF-1 = ((\text{absolute maximum length of a particle of the base toner})^2 / \text{area of the particle of the base toner}) \times (\pi/4) \times 100$,

wherein $SF-2 = (\text{peripheral length of the particle of the base toner})^2 / (\text{area of the base toner}) \times (1/4\pi) \times 100$,

wherein the inorganic fine particles have an average particle diameter that ranges between 30nm to 160 nm.

25 2. The developer as claim in claim 1, wherein

FOR INFORMATION
DISCLOSURE
PURPOSES ONLY

RECEIVED
OCT 20 2003
TC 1700

Related Pending Application
Related Case Serial No: 10/615,770
Related Case Filing Date: 07-10-03

the inorganic fine particles are formed as silica.

5

3. The developer as claimed in claim 1,
wherein the inorganic fine particles are applied with a
sol-gel technique and are thereby formed as spherical
shaped hydrophobic silica fine particles.

10

4. The developer as claimed in claim 1,
15 wherein the developer contains further inorganic fine
particles having an average particle diameter which is
smaller than the inorganic fine particles.

20

5. The developer as claimed in claim 1,
wherein the developer is combined with a magnetic
particle to function as a carrier.

25

6. An image forming apparatus, comprising:
5 a developer for developing an electrostatic latent image formed on an electrostatic latent image carrier body to form a toner image;
a transfer unit for transferring the toner image to a transfer medium;
10 wherein the developer includes a further developer and a carrier,
wherein the further developer has a base toner containing at least a binding resin and a coloring agent, and inorganic fine particles,
15 wherein the carrier has a magnetic particle,
wherein the base toner satisfies $105 \leq SF-1 \leq 130$ and $120 \leq SF-2 \leq 180$,
wherein $SF-1 = ((\text{absolute maximum length of a particle of the base toner})^2 / \text{area of the particle of the base toner}) \times (\pi/4) \times 100$,
20 wherein $SF-2 = (\text{peripheral length of the particle of the base toner})^2 / (\text{area of the base toner}) \times (1/4\pi) \times 100$,
wherein the inorganic fine particles have an
25 average particle diameter that ranges between 30nm to

160 nm.

5

7. The image forming apparatus as claimed in
claim 6, wherein the inorganic fine particles are formed
as silica.

10

8. The image forming apparatus as claimed in
claim 6, wherein the inorganic fine particles are
15 applied with a sol-gel technique and are thereby formed
as spherical shaped hydrophobic silica fine particles.

20

9. The image forming apparatus as claimed in
claim 6, wherein the developer contains further
inorganic fine particles having an average particle
diameter which is smaller than the inorganic fine
25 particles.

5 10. The image forming apparatus as claimed in
claim 6, wherein the developer is combined with a
magnetic particle to function as a carrier.

10

11. The image forming apparatus as claimed in
claim 6, wherein the developer includes a plurality of
colors.

15

20 12. A process cartridge, comprising:
a charge unit charging a photoconductor;
an exposure unit exposing light to the
photoconductor to form an image on the photoconductor;
a development unit developing the image formed
on the photoconductor with a developer;
25 a transfer unit transferring the image formed

on the photoconductor to a transfer medium;

a cleaning unit cleaning the transfer unit;

wherein the developer includes a further developer and a carrier,

5 wherein the further developer has a base toner containing at least a binding resin and a coloring agent, and inorganic fine particles,

wherein the carrier has a magnetic particle,

wherein the base toner satisfies of $105 \leq SF-1$
10 ≤ 130 and $120 \leq SF-2 \leq 180$,

wherein $SF-1 = ((\text{absolute maximum length of a particle of the base toner})^2 / \text{area of the particle of the base toner}) \times (\pi/4) \times 100$,

wherein $SF-2 = (\text{peripheral length of the particle of the base toner})^2 / (\text{area of the base toner}) \times (1/4\pi) \times 100$,

wherein the inorganic fine particle has an average particle diameter that ranges between 30nm to 160 nm.

20

13. The process cartridge as claimed in claim
25 12, wherein the inorganic fine particles are formed as

silica.

5

14. The process cartridge as claimed in claim 12, wherein the inorganic fine particles are applied with a sol-gel technique and are thereby formed as spherical shaped hydrophobic silica fine particles.

10

15. The process cartridge as claimed in claim 15 12, wherein the developer contains further inorganic fine particles having an average particle diameter which is smaller than the inorganic fine particles.

20

16. The process cartridge as claim in claim 12, wherein the developer is combined with a magnetic particle to function as a carrier.

25

17. A image forming method, comprising the
5 steps of:

charging a photoconductor;
exposing light to the photoconductor to form
an image on the photoconductor;
developing the image formed on the
10 photoconductor with a developer;
transferring the image formed on the
photoconductor to a transfer medium;
wherein the developer includes a further
developer and a carrier,
15 wherein the further developer has a base toner
containing at least a binding resin and a coloring agent,
and inorganic fine particles;
wherein the carrier has a magnetic particle,
wherein the base toner satisfies $105 \leq SF-1 \leq$
20 130 and $120 \leq SF-2 \leq 180$,
wherein $SF-1 = ((\text{absolute maximum length of a particle of the base toner})^2 / \text{area of the particle of the base toner})^2 \times (\pi/4) \times 100$,
wherein $SF-2 = (\text{peripheral length of the particle of the base toner} / \text{area of the base toner}) \times (1/4$
25

π) \times 100,

wherein the inorganic fine particles have an average particle diameter that ranges between 30nm to 160 nm.

5

18. The image forming method as claimed in
10 claim 17, wherein the inorganic fine particles are formed as silica.

15

19. The image forming method as claimed in
claim 17, wherein the inorganic fine particles are applied with a sol-gel technique and are thereby formed as spherical shaped hydrophobic silica fine particles.

20

20. The image forming method as claim in
25 claim 17, wherein the developer contains further

inorganic fine particles having an average particle diameter which is smaller than the inorganic fine particles.

5

21. The image forming method as claim in
claim 17, wherein the developer is combined with a
10 magnetic particle to function as a carrier.